BEFORE THE SOUTH CAROLINA UTILITIES COMMISSION

DOCKET NO. DEC 2018-319-E

In the Matter of:	)	
	)	**REBUTTAL TESTIMONY OF**
Application of Duke Energy Carolinas, LLC	)	**STEVEN D. CAPPS**
for Adjustments in Electric Rate Schedules	)	**FOR DUKE ENERGY**
and Tariffs and Request for Accounting Order	)	**CAROLINAS, LLC**
	)	

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Steven D. Capps and my business address is 526 South Church Street, Charlotte, North Carolina.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am Senior Vice President of Nuclear Operations for Duke Energy Corporation ("Duke Energy"), with direct executive accountability for Duke Energy's South Carolina nuclear plants. I am also involved in the operations of Duke Energy's other nuclear stations, including DE Carolinas McGuire Nuclear Station ("McGuire") located in Mecklenburg County, North Carolina.

Q. DID YOU OFFER ANY DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes. I filed direct testimony in this proceeding.

II. PURPOSE AND SCOPE

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My testimony will respond to the direct testimony of ORS witness Willie J. Morgan of the South Carolina Office of Regulatory Staff (the "ORS"). Specifically, I will respond to Mr. Morgan's recommendation to remove the Company's request to adjust depreciation and amortization expenses to

establish a reserve for end of life nuclear costs not captured in its decommissioning studies.[1]

III. REBUTTAL TESTIMONY

Q. WHAT IS ORS WITNESS MORGAN RECOMMENDING ON BEHALF OF ORS AS IT PERTAINS TO THE ESTABLISHMENT OF RESERVE FOR END OF LIFE NUCLEAR COSTS?

A. ORS witness Morgan is recommending the exclusion of the Company's requested adjustments to establish a reserve fund and collect approximately $7 million annually for end of life nuclear costs, including nuclear fuel and parts inventory, not captured in the Company's decommissioning studies. Witness Morgan argues that the requested reserve fund includes estimates for end of life nuclear fuel and parts inventory that are not currently known and measurable. Further, he opines that it is not equitable for the Company's customers to pay for nuclear plant retirement costs when the date of retirement of the nuclear units is currently uncertain.

Q. DO YOU AGREE WITH ORS WITNESS MORGAN'S RECOMMENDATION?

A. No, I do not. The establishment of the end of life nuclear reserve is in the best interest of today's customers and the estimates used to determine the level of reserve funding were calculated appropriately.

[1] Direct Testimony of Willie J. Morgan, pp. 4-5.

Q. PLEASE EXPLAIN WHY THE ESTABLISHMENT OF THE NUCLEAR RESERVE IS IN THE BEST INTEREST OF TODAY'S CUSTOMERS.

A. South Carolina customers have received and will continue to receive the benefits from the strong safety and operational performance of the Company's nuclear fleet. The end of life nuclear fuel and inventory costs not covered in the decommissioning fund represent costs of continued operations of the nuclear fleet. Our customers benefit if those costs are accrued over the remaining life of the nuclear units.

Q. PLEASE EXPLAIN WHY THE ESTIMATES USED TO ESTABLISH THE END OF LIFE NUCLEAR RESERVE FUND WERE CALCULATED APPROPRIATELY.

A. The reserve fund estimate primarily consists of the remaining fuel in core and inventory used to maintain the units. While ORS witness Morgan is correct that the exact end of life costs are currently not known, the Company used solid principles to estimate the required funds.

Regarding nuclear fuel, the Company used current forecasts for uranium, fabrication, and enrichment to calculate the estimated value of underutilized fuel remaining in the last core. Due to the very nature of nuclear power production, fuel cores are carefully designed and balanced to maintain safety margins and production. When a nuclear unit refuels, approximately

one third of the fuel is replaced and the remaining fuel is shifted in the core to maintain safe production capability for the next operating cycle. When a unit shuts down at the end of its life, approximately two thirds of the fuel that would otherwise continue to support operation of the next cycle (if the unit were refueled) is left underutilized as a byproduct of cycle operation. Since the last day of operation is known, the projection of underutilized fuel value at the end of the last operating cycle assumes prudent steps will be taken to minimize this underutilization. A shorter last cycle length is assumed and savings from a decreased fuel load are incorporated. Since the last fuel reload will not reside in the core for multiple cycles as would normally be the case, the end of cycle value of the last core is further reduced to account for core design optimization available with the final core load.

Regarding nuclear inventory, the Company used the existing inventory balance, at the end of the test period, as the estimate of inventory remaining on the last day of operation. Nuclear plants must be fully maintained for safety purposes until removed from service, and inventory must be available to support that mission. The DE Carolinas nuclear fleet has demonstrated strong safety and reliability performance providing South Carolina customers with carbon free baseload generation. In fact, as of December 31, 2018, the DE Carolinas nuclear fleet has achieved annual capacity factors in excess of 90% for nineteen consecutive years. Ensuring the availability of proper

replacement and maintenance components and supplies is vital to continued excellence in operations.

Q. IS WITNESS MORGAN CORRECT IN HIS ASSERTION THAT THE RETIREMENT DATE OF THE NUCLEAR UNITS IS UNCERTAIN?

A. ORS witness Morgan is correct in his assertion that there is a licensing process, which allows the Company to seek an additional 20 years of service beyond the current license expiration, for the existing nuclear units. The process, known as subsequent license renewal ("SLR") was established by the Nuclear Regulatory Commission. The Company has not yet filed with the NRC, nor received additional license extensions from the NRC, but continues to maintain the existing fleet to ensure that additional license extensions remains a viable option. Until SLR is requested and granted, the current license correctly bounds the end of life of each nuclear unit.

Q. IS THE PROPOSED NUCLEAR RESERVE ACCRUAL PERIOD BASED ON THE EXISTING LICENSE EXPIRATION DATE FOR EACH UNIT?

A. Yes. The proposed nuclear reserve accrual period is based on the existing remaining license period for each of DE Carolinas nuclear units.

Q. IF LICENSE EXTENSIONS ARE SOUGHT AND GRANTED, WOULD THE COMPANY CONSIDER ADJUSTING THE ACCRUAL PERIOD?

A. Yes. If the Company ultimately applies for and receives a license extension for all or part of the existing DE Carolinas nuclear fleet, the Company would be open to adjusting the accrual period to reflect shutdown dates based on a renewed license. In fact, as Company witness Smith stated in her direct testimony, the annual accrual amount can be reviewed and adjusted, if needed, in each future general rate case before the end of the plant's life.

IV. CONCLUSION

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.